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ABSTRACT

This paper is an evaluation of a curriculum guide designed to promote better eating habits in young children through educating teens as child care workers and future parents. The curriculum guide was initially field tested in two occupational child care classrooms in Minneapolis. The overall purpose of the evaluation was to determine whether the guide as written could be used in situations involving teachers and students in schools. The paper is divided into four parts. The first section describes the purpose and design of the evaluation and gives general descriptions of the field test sites and the curriculum. Section 2 reports findings related to program implementation. These findings are presented within categories that emerged as the study progressed. Section 3 describes findings related to effects of the program on program participants. Findings are reported according to the four questions which guided the impact part of the study. Section 4 discusses the implications of and recommendations for addenda to the present curriculum, for future revisions and for distribution and inservicing. (Author/MP)

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SPEAC FOR NUTRITION

Final Secondary Evaluation Report

June 1980

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Minneapolis Public Schools
An Equal Opportunity School District

SPEAC for Nutrition Student Curriculum

an evaluation report

Co-authored

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p.c.
j.p.

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SPEAC for Nutrition Student Curriculum

an evaluation report

PART I - NATURE OF THE EVALUATION

INTRODUCTION

When curriculum is discussed, visions of lesson plans, reference books, and resource guides often come to mind. Yet, curriculum as it is found in classrooms never stays in its paper form. Curriculum in classrooms involves teachers defining and selecting issues, translating problems into concepts and learning experiences for students, and students incorporating these particular experiences into a potpourri of others. And, curriculum in classrooms deals with abilities and conceptions of teachers and students, with constraints and enrichment of scheduling, traditions and facilities, and with support or non-support of parents and administrators.

This is an evaluation of a piece of curriculum, a curriculum guide entitled "SPEAC for Nutrition"which was designed to promote better eating habits in young children through educating teens as child care workers and future parents. Moreover, this is an evaluation of the SPEAC for Nutrition curriculum guide as it was field-tested in two occupational child care classrooms in Minneapolis during spring trimester, 1980 (referred to hence as school A and school B). The overall purpose of the evaluation was to determine whether the guide as written could be expected to be usable in other situations where real teachers and students interacted in real schools. The general conclusion was that, with certain adaptations and considerations by teachers and curriculum distributors, the material contained in the curriculum could be used to enrich other programs which involved teens and young children.

Evaluation Questions

The questions which guided the evaluation study were developed through examination of the project proposal and conversations with state and district staff, particularly the SPEAC for Nutrition Project Coordinator:

A. How and to what extent was the curriculum implemented in the field test sites?

   1. To what extent was the curriculum adaptable to different settings and existing program plans?

   2. How ought the curriculum be described for potential users (with implications for inservice activities)?

B. To what extent were the intended results produced with the use of the curriculum?

   To what extent:

   1. Was there increased understanding by high school students of their own nutritional needs and those of preschool children?

   2. Was there increased integration of nutrition education into the overall preschool curriculum?

   3. Was there increased decisionmaking and communication between high school students and preschool children regarding food and nutrition concerns?

   4. Were the students better able to plan food intake to meet the needs of preschool children incorporating the Child Care Food Program where appropriate?

Design of the Study

Two approaches were used to examine the SPEAC for Nutrition curriculum: 1) a descriptive perspective that involved interviews with teachers, students and resource people and observations of the curriculum being implemented at the field sites and 2) a "goal achievement" approach which employed written instruments to assess the effectiveness of the curriculum.

Three interviews were conducted with the teacher from school A and two with the teacher from school B. The second teacher also taped her responses to particular aspects of the curriculum. Short interviews were conducted with students from school A and the special education aide also contributed her ideas concerning the curriculum's use with special needs students. The implementation of the curriculum was observed for two weeks at school A and a special foods' day planned and conducted by the teens was observed at the playschool of school B.

Three written instruments were given to the students at both schools upon their completion of the activities involved in the curriculum. The tests were also administered to a food!s class at each of the schools and to a child development class at another Minneapolis school; these classes served as comparison groups for test analyses.

Because the evaluators of this project were also the developers of the first draft of the SPEAC for Nutrition guide, special care was taken to reduce bias. Plans were critiqued and monitored by evaluation specialists from the University of Minnesota and a trained neutral person was hired to conduct interviews and observations. Little recognition or renumeration was expected to accrue to the developers/evaluators because of a positive or negative evaluation.

Field Test Sites

Schools A and B were located in substantially different parts of the city and the students differed in their racial and socio-economic backgrounds. About 5½% of the students from school B were identified as being of minority background while approximately 19% of the students from school A fell in this category (most of the minority students were Black and Native American). About 14% of the students in school A were designated as living in poverty compared to 8½% from school B.

The two field test sites were similar in many respects. Both were classified as occupational child care programs meaning that their primary function was to train secondary students for work with young children and that their teachers were vocational home economics teachers who had specialized in early childhood education. Both programs met two hours each day and spent two days a week in classroom instruction and activities and three days interacting with young children. Each of the programs operated an in-school playschool for 12 - 14 three to five year olds during spring trimester although school B had sent its students out to nursery schools, day care centers and day care homes for their laboratory experience before that time.

School A had nine secondary students who regularly attended class while school B had 27 students. The students in school A worked on independent activities in the classroom while they were not working with children in the playschool; the students in school B were out at their fieldsites

when they were not scheduled for the playschool and they spent only two days a week at school during those times. The units within the SPEAC curriculum were treated largely as independent study pacs in school A and students were expected to complete most of the activities in written form with limited teacher direction. The activities conducted in school B were generally done as total class experiences under the teacher's direction. Discussion questions were completed orally.

It was common in both schools for students to enter the program at the beginning of any trimester and leave before completing the three trimester sequence. Consequently, the teachers usually had a combination of "old" and "new" students and had to tailor curriculum to meet the needs of both groups. The teacher from school B described the situation this way:

> Ideally should have the same students all year, but with the scheduling for senior high school we find it impossible to tie up the schedule of a student for a two hour block all year. So what happens is that I have some students that come in the fall and winter, some that come in the winter and spring and some that come in the spring only. I also have some who are with me all year. Every trimester I have a new crop and an old crop.

Both teachers found that the unstable participation in the program surfaced curricular and management issues. These issues affected reactions to the curriculum as will be evident in Part II of this study.

THE CURRICULUM

The SPEAC for Nutrition project was funded by Section 18 funds of the U.S.D.A. Section 18 monies are a portion of U.S.D.A. funds which are granted to agencies which submit proposals for nutrition education demonstration projects designed to increase nutrition knowledge and change attitudes which will result in improved eating habits, especially as they relate to U.S.D.A. funded food programs such as the Child Care Food Program.

The high school unit which was evaluated in this study was one part of the total SPEAC for Nutrition project. This guide was designed to be used in vocational home economics programs. The SPEAC curriculum was intended to enrich teens' understanding of nutrition principles and commitment to good eating habits through a) exposure to information about basic nutrition fundamentals including how nutrition relates to all life cycles, and

b) assumption of the role of teachers of young children in nutrition education.

The actual curriculum guide consisted of numerous independent, small and large group activities organized under five section headings. Both the writers of the guide and the teachers who field tested it were instructed by the project coordinator that any or all of the activities in the curriculum could be taken and adapted into existing classroom curricula. Tentative time estimates for each activity were given and it was predicted that approximately 20 hours would be needed to complete all the activities. The learning experiences in the curriculum gnerally involved a high degree of student involvement and the learning process was largely inductive. Interaction with young children as well as their parents and other child care workers was expected.

The activities for each section of the guide follow; the descriptions were included in the teacher inservice materials and thus were available to the teachers who participated:

SUMMARY OF CURRICULUM UNIT ACTIVITIES

1. FOOD ISN'T JUST SOMETHING TO EAT

   In this section, students discover the variety of learning that young children can gain through nutrition activities. A worksheet is provided for students to fill out and compare. After viewing a film, the students discuss what children learn from various activities and begin a card file of nutrition activities The student's next task is to record observations of preschool children involved in nutrition activity centers at the preschool site. Last, they plan, carry out, and evaluate a preschool nutrition activity.

2. WHY DO CHILDREN EAT WHAT THEY DO?

   In Section 2, The students share experiences that have affected their eating of certain foods in order to increase their awareness of the social, cultural, and psychological factors affecting food habits. Then students observe a family with a preschooler during mealtime to further understand the formation of eating habits. They compare their observations. Next they interview the preschooler and summarize their interviews with other students. The students then view a film that stimulates discussion about their own food habits and the various reasons for those habits.

3. FOOD FOR ALL SEASONS OF LIFE

In this section, the students learn about the nutrients that are needed for healthy growth and development and their relation to the four food groups. They record their own food intake to assess if their nutritional needs are being met by using the Foinana computer program. The students discuss nutrients a child needs to grow and develop and the importance of developing positive attitudes toward food and mealtime at an early age. The students divide nutrient comparison cards into four food groups. They use the comparison cards to determine nutrients for one meal. Then they analyze a preschooler's diet using the Foinana program and then complete worksheets. Last, they compare the nutritional needs of teenagers and preschoolers.

4. CHILD'S EYE VIEW OF FOOD

In this section, students are asked to become more sensitive to the characteristics of children and of foods and to put the two together in healthy combinations. Results of interviews with family day care parents or center cooks are synthesized into guidelines for adapting foods and eating experiences to the needs of young children. A filmstrip is used to examine how foods and their characteristice affect the young child. The students then take opposing stands in debating the issues involved in structured problem situations. Finally, they apply the principles learned in the preceding activities to problem vignettes involving young children and eating situations.

5. PUTTING THE PUZZLE TOGETHER

In this last section, the students learn about snacks and their role in a child's nutritional and educational life. They plan snacks using cardboard food models and, as a group, plan five snacks using a snack checklist. The students judge snack menus and improve those that do not meet the standards. They consider snacks available in vending machines. In the last activity of this section, the students design a form for judging snacks, then plan, carry out and evaluate a preschool snack experience.

The teacher in school A taught the complete curriculum in the spring. The teacher in school B taught part in the fall and the other units in the spring. She consciously implemented or omitted activities according to how well they met her program's needs in the time that was available.

* * * * * * * * * * * * *

This report is set up in four parts: 1) The first section describes the purpose and design of the evaluation and gives general descriptions of the field test sites and the curriculum, 2) Next, findings related to program

implementation are reported within categories that emerged as the study progressed, 3) Findings related to effect on program participants are then reported according to the four questions which guided the impact part of the study, 4) Finally, implications and recommendations are discussed for addenda to the present curriculum, for future revisions and for distribution and inservicing.

PART II - FINDINGS ON CURRICULUM IMPLEMENTATION

A DIVERSITY OF STUDENTS

The students who were reached by the curriculum varied on many different dimensions. The dimension which seemed to have the greatest effect on the success with which the curriculum was implemented was whether or not the student was considered to be a special education student. Special education students had difficulty completing the assignments in the curriculum by themselves due to reading and writing handicaps. If the curriculum is implemented in this way, some adaptations needed to be made to better suit the needs of these students.

Concern for Special Education Students

Within the child development classes, the teachers noted diversity in background and ability levels:

> I deal with at least a third that are mainstream students--one almost a TMR and some that are EMR and then basically spcial ed. students. Some students have had no child development at all. Some have had junior high child development: some the child development class here at (school B). Some who have had a lot and can just take over and teach. I don't really meet the really bright student. I tend to meet the medium and lower ability students. I may have two or three of the really bright students. We really serve an important need of the mainstream students. The program functions quite well for them.

The presence of the special education student was definitely felt in both classrooms. This situation was not unusual and reflected a practice of channeling these students into vocational classes which often are seen as offering more opportunities for success.

> I think the mainstreamed learn social skills more than anything. They don't get the reading and math skills but they do get the social skills in working with children. They learn more about working with children than anybody because they don't know as much. They practice things and really listen to learn how to do the skills. . . They learn language and communication skills too because those are lacking and they learn through working with the children. Eventually they open up in class too. They get positive rewards and successes...

However, special education students usually necessitated particular provisions on the part of the teacher and adjustments to daily activities:

> But in between I get some people that are special ed. kids. They are hard to deal with sometimes because they are non-writers and non-readers. That's what is going to be hard in some of this. In the special ed. people, they are pretty much unable to function alone in a reading and writing assignment . . .

The teacher from school B made no specific comments regarding the curriculum in relation to the special education students. However, the aide who assisted with the special education students in school A one or two days a week was critical of the curriculum. Her comments included concerns relating to unnecessarily complex sentence structure, unclear directions, and gramarical and typographical mistakes. Several of her suggestions were incorporated into a report given to the project coordinator and summarized in the Appendix.

Concluding Comments and Suggestions

Considering the difficulty in reading and writing ascribed to special education students and the differences in reported difficulty between schools A and B in using the curriculum with special education students, it might be speculated that the manner in which the activities were handled made a difference. As reported before, the units were duplicated as independent study pacs in school A requiring a great deal of student reading and writing.

> I'm sure some of this was hard for her (special ed. aide) people to do. Very hard for them to do and would demand a one to one contact. I realize if you had 6 specials it would take some time. In _____'s (student) I wrote for him and they will recognize that. She isn't as anxious to write for them as I was. She wants them to do it. I did a couple of things for _____ because it was so much easier.

Thus, adapting the curriculum to the needs of the special education student is probably a matter of curriculum revision and sensitive curriculum presentation. One approach without the other would most likely accomplish little.

WHAT TO DO WHEN

The timing of the playschool experience in the overall year's plan and the tasks expected of the secondary students in the playschool affected

which topics from the curriculum were utilyzed when and to what extent. Teachers identified core concepts which were seen as the essential content students needed to master before undertaking certain activities with young children.

> So what I have each trimester is training in new people for the job. Plus changing the content for the students so that there isn't overlap and the new students get what they need. The students who are familiar with the introductory material usually start in those settings right away and then I can work with the new students on the content they need.

Varying Structures Affecting Varying Needs

However, what was viewed as "introductory material" varied by what children's activities were being anticipated for the teens. In school B, the students worked in fieldsites during the year; they often were involved with children's activities but seldom with snack time.

> In the fall it is basically the content information. That is needed first since they have no chance to do foods activities in the sites because it would require too much coordination. What is done is activity about food rather than activities with children and food . . .

In the spring, on the other hand, a playschool operated in the high school and the students were expected to plan the snacks. Anticipation of the knowledge and skills needed to do this task caused the teacher to shift emphasis in what was sought from the curriculum.

> With running the nursery school, I have got to have them learn to prepare nutritious snacks. If they are going to plan nutritious snacks, then we're going to have to consider a child's idea of food. Those two for sure we would have to do. And then we have to know the why. I think the computer would be a good thing to do in looking at the child's diet. Then we might omit the student's own diet analysis if we had to. If they did even one they would see how important it is.

The program in school A involved a period of four weeks before the playschool began in the high school. During that time, the teacher tried to expose the students to what she identified as "all the introductory things." Since the students would be expected to undertake both snack planning and preschool activities on a limited basis, almost all of the

curriculum had potential for use:

> I'd do it in the fall when I don't have children and I think if I did it in the first month and you were working on it every day then you could do anything that had to be done except that the food activities would be done in the nursery school when it started, but they could have them planned. I think they could get it done within a 10 day period (20 hours).

However, this approach was not seen as the only way of handling the concepts and activities:

> It would be a possibility that you wouldn't do it all in one stretch. Sometimes the unit comes early in my curriculum in the fall. You could do part of the unit then and pick up later on.

Concluding Remarks and Suggestions

Other programs may have even more time (sometimes as much as a trimester or two) devoted to general content before involving students in a children's program. In still other programs, secondary students might be involved in a children's program and not be responsible for snacks or activities (this pattern could be more typical of a parenting program not intended to develop occupational skills). In either of these cases, a teacher might choose to deal with the more general, background content in units 2 and 3 before moving toward the specific, skill-oriented topics in units 1, 4 and 5. The curriculum seemed to allow for this flexibility. Teachers indicated they needed to develop more familiarity with the units through inservice or experience before they felt comfortable "picking and choosing."

> Scheduling and being sure that what is suggested will work is important. I only have a couple days to work and I have to have it well planned and go right through the things. I can't waste time. If it doesn't turn out for Tuesday, then it is Friday before I can get to it again. The more familiar I become with the materials, the better - easier it will be for me to do.

Overall, both teachers felt the content contained in the curriculum was important and comprehensive.

OPERATIONALIZING THE PLAN

Activity ideas from the curriculum that were tried by the teachers were in general liked. They saw them as well organized, easy to do and containing a variety of things to keep students interested. As teachers tried out these ideas, there were some concerns observed and expressed by those involved. The resources available, the skills needed and the time required to do an activity affected their use and effectiveness. To aid in operationalizing the curricular plans the teachers make, they need information on resources and need in-service experiences to become familiar with the activities.

Resources Available

Resource materials can be a support or a hindrance to the implementation of curriculum. With the SPEAC curriculum guide, it appeared to be both. The suggested resource materials were a support in that many of them helped to develop concepts that teachers thought were important. The suggested resource materials were a hindrance in that some were not readily available so some activities were eliminated, and thus some concepts were not covered in a way that may have been desirable.

Several films and filmstrips were suggested for use in the units. Some were used and were found to be very good, but several were left out because teachers were not able to get them when needed or they did not know exactly where to get them. Specific comments on which resources were available and used are listed in Appendix C.

Reading materials on planning snacks were not readily available so they were not used. Instead, a list of 25 snacks sent out by the project coordinator was used for examples in planning snacks. As a result, students did not learn what the Child Care Food Program Guidelines were.

Teachers were also concerned with getting access to use the computer terminals. At one school, most students did analysis of their own diet with the help of the computer. At the other field test site, the teacher tried it in another course and found the students enjoyed it but the directions

needed updating. Neither teacher had used the computer as a teaching aide before so it seemed there was some apprehension at using it. Once they used it though they reported there were virtually no problems.

People--children, parents, families--were seen as resources for this curriculum. Interviews and observations of these people to learn more about eating habits were suggested. Due to the structure of the course and the living situations of some students, it was difficult for some to find families to observe and children and family day care parents to interview. Teachers did adapt the ideas to fit their situations. One teacher substituted one of the "At Home" films in place of the actual family observation. In the other school selected students did the interviews and then shared with the whole class.

Some of the suggested resource material was included in the curriculum guide. Worksheets which were ready for duplication were included in each section of the guide. The teachers found that this helped them to be able to use the material more easily. This was especially important for the teacher at school A who copied all the materials and used them for independent study. Having all these materials in the guide did bring some frustration also because it did become more cumbersome and may have made it more difficult for teachers to decide which activities they wanted to do. Worksheets were also included for optional or alternative activities. Some confusion was produced because these were not labeled clearly enough as optional.

Teachers substituted, adapted or eliminated activities because of resources that were available. If teachers had a chance to become more familiar with some of the resources and had current, accurate information on where to get them, it seems that much frustration would be eliminated and it would increase the effectiveness of the unit.

Skills Needed

Planning activities that are of interest to the students and at their ability level, but yet help them to develop is a challenge. Remarks made by the teachers indicated that they felt this curriculum guide helped them to do that. Most of the activities used seemed to be of interest to students

and most were able to understand and complete the written work or discussion (this varied more with the special education students). Comments were made though about two activities with which teachers thought students had difficulty doing.

Interviewing skills were one area of concern. The students seemed to be apprehensive about going up to somebody and interviewing them. An interview was suggested for students to do with a preschooler. Some preschoolers also had some difficulty with the interview; they had trouble answering the questions that they were asked. It worked out better with the older preschoolers. The interview form to be used by the student with the family day car parent was reported as easy to use.

Skills needed for debating were another area of concern. These skills were needed in the "Debate Duel on Food Issues and Kids".

Students found it interesting, yet they didn't know how to debate. Students did write out their own opinions on the topics and were able to talk informally with each other about the issues. But, teachers did not feel the students were able to do a debate.

It was noted that the design of some of the activities may use processes the teachers are not familiar with. In-service which includes experiences through which teachers could gain understanding of these activities would then aid them in helping students develop understanding and skills.

Time Required

> In the fall when I did the curriculum, I haven't been able to go through the whole thing. There is just too much to do. There could be a whole month of just nutrition Monday through Friday.

The curriculum guide does contain a number of activities which enables the teacher to be able to select those she (he) judges to be best for a particular situation. During the field testing, teachers did make judgments about which activities to use and in what way. Judgments based on the concepts included in the activity have been discussed in the previous section, but judgments were also made by teachers based on the nature of the activity. In addition to reasons already cited for doing or not doing an activity, the amount of time needed to complete an activity had an impact on what was

done and in what way.

Teachers did plan the time to utilize many of the activities suggested in the curriculum guide. (See Appendix C) At school A, all the activity sheets were copied and given to the students to work on independently. Students varied in the number of activities which were completed. One of the factors influencing this was the time each student needed in order to complete the activities. It was enough time for some, but not enough for others. At school B, the teacher decided to do many of the activities. She also decided not to do some because of their complexity and the amount of time needed to do them. This teacher decided not to use the computer analysis of diets because it would take too much time to do--especially with a large class. The snack planning form was not used either because it would take too much time.

> The checklist is pretty involved and I guess it is making more work than what is actually done. There's not enough time.

Teachers do have to make plans about how to best use their time in the classroom to teach the concepts they feel is important. In-service that helps teachers become familiar with the activities will help teachers in making workable plans which will best fit in the time they choose to teach concepts about children and food.

PART III - FINDINGS ON EFFECTS ON PROGRAM PARTICIPANTS

INSTRUMENTS AND RESULTS

It was difficult to observe and record behavioral changes in students in the short time that the curriculum was implemented and evaluated. For this reason, three written instruments were developed and administered as post-tests to the students who had been exposed to the SPEAC curriculum and three comparison groups. Substantial differences were found between the two groups on a multiple choice achievement test on nutrition principles and on issues related to children and foods. Qualitative differences were found on some of the responses to four open-ended problem vignettes. No differences were apparent between the two groups on an assignment asking them to plan five snacks which met the Child Care Food Program guidelines.

The instruments were administered as post tests since some of the SPEAC students had been exposed to parts of the curriculum prior to the field test period. It is recognized that the inferences that may be drawn from this design are limited. However, the instruments were also developed and administered with the idea that, in the future, they could be given to teachers with the curriculum to evaluate students and/or instruction. With this purpose in mind, the devices have been tested, validated and revised.

QUESTION # 1 - INCREASED UNDERSTANDING OF NUTRITIONAL NEEDS

The first of the "effect-oriented" questions which directed this evaluation asked whether there was increased understanding by high school students of their own nutritional needs and those of preschool children. The multiple choice device which was designed to test this issue showed that students who studied the SPEAC curriculum scored substantially higher on a post test than did their peers who did not study the material. The greatest differences

on the test occurred on those items which related specifically to children and foods as opposed to general nutrition.

The Test and Its Development

The multiple choice test was developed to test for important concepts from all units of the SPEAC curriculum. Nine of the items or one third of the test dealt with basic nutritional principles from unit 3 of the curriculum while 16 items were related specifically to children and foods. (The test had 27 items total.) The device had previously been tested with other city senior high home economics students and had been found to have a reliability co-efficient of .78.

Results and Implications

The difference between the scores of the students who had studied the SPEAC curriculum and those who had not was significant at the .01 level of probability. The mean score of the SPEAC students was 20.45 and of the non-SPEAC students 16.12.

There was a difference of more than 20 percentage points between the per cent of SPEAC students and the per cent of non-SPEAC students having correct responses in seven of the items which related to children and foods and two of the items which related to general nutrition principles. The test with the percentage of response to each item by SPEAC and non-SPEAC students is found in the Appendix.

The non-SPEAC students scored substantially better on an item which dealt with pizza as a nontraditional breakfast food (item 19). It is thought that the SPEAC students might have been over-sensitized to the nutritional aspect of foods and that the distractors could be interpreted in more than one way. The item will be dropped in the revised version of the test.

There were no differences between the SPEAC and non-SPEAC students in their responses to the item which related to the Child Care Food Program Guidelines. This finding was consistent with the findings from the snack planning assignment which will be discussed under question #4.

Conclusions and Recommendations Concerning Achievement Test

Although the differences between the SPEAC and non-SPEAC groups on the achievement test were substantial, the loose controls allowed by the post-test

design do not permit any causal inferences. On the other hand, the results, though tentative, are quite noteworthy in that smaller or no change might have been expected from the variable manner in which the materials were implemented. The outcomes suggest that there is promise for further study and that the achievement test has potential for assessing learning brought about by the use of the curriculum.

QUESTION # 2 - INCREASED NUTRITION INTO PRESCHOOL CURRICULUM

It was found that teens were involved in food and nutrition activities with children in the classroom. As a result of these activities, preschoolers and teachers reported more awareness of foods and nutrition. Although it was not possible to systematically examine whether the teens planned more food and nutrition related activities for the preschoolers, there were reports of several such activities done and snacks seemed to become a more thoughtfully planned part of the preschool day. Use of the curriculum also seemed to increase motivation and ideas for implementing food and nutrition activities.

Increased Awareness of Preschoolers

One of the teachers had an advisory council composed of community people interested and involved in children's programs and of some of the parents of children in her preschool program. These parents commented on the impact the foods and nutrition activities had had on their children.

> One little boy (5 years old) became so interested that now he asked his mother, "What's in these green beans?" He also has a book on vitamins which he mentioned in class.
>
> They see their children more interested in nutrition at home and so they had some favorable things to say about the things we have done in nutrition. Some of the things that mother says are reinforced by what we say here in school has had more meaning to them.

Increased Awareness of Teachers

Both teachers reported that they monitored the snacks that were planned for the preschool very carefully. Comments that were made indicated that

the standards that were set for acceptable snacks for the preschool had become more strict.

> I am not going to let them plan. I am going to be very authoritative in this. I am not going to let them serve kool-aide and I am going to be sure that what they serve is nutritious. I will let them know if something isn't right and tell them why.

> I don't let them choose things that aren't nutritional. I used to before but now I'm very firm about what to plan for the children.

Both teachers also indicated a strong commitment to teaching nutritional principles and to encouraging young children to eat well. This sensitivity may well have been caused not by the curriculum but by a value that influenced the two to field test the materials in the first place. They may also have been responding as they felt the evaluators would wish.

> I am really convinced that nutrition is important...I am concerned with what the little ones eat and our kids, so I guess anything we do in nutrition is important to do.

> I have been reading how important it is to begin to start nutrition early and how you can't change all the things that need to be changed when the students are teenagers. If we are going to do anything about our nutrition problems it is important to start early.

Teens' Activities With Young Children

The teens were observed conducting several foods activies with the preschool children. It seemed that preparing snacks that involved the children was a popular activity. Children and teens prepared such snacks as mini-pizzas, pancakes, fruit salads.

> We have had some of the food activities in which the children prepare their own food. We have set up a salad bar and the little children fix their own salad...We have also had a rabbit party and that day the children ate raw things. In the next section, we are planning to do an indoor picnic.

Other food-related activities were done such as vegetable printing, smell and taste tables, grouping food models, and stories and songs about food and eating. Adult models sometimes showed the teens how the activity could be enriched for the children by modeling and asking questions. Some students learned through experience about modeling.

> My students learned some things while they were doing it and they came to the realization as they were doing the activity that their own choices about foods influence the children's choices. At one point in time when they were doing this activity the teachers were very careful to see that the children sample all of the foods. After the activity was over another teacher asked if she wanted a pizza for herself and what she wanted on it. The teacher said no green pepper. Well that statement almost wiped out everything that they had tried to teach to the younger children. I think they learned something by their error at that point in time because as soon as she had said it she knew she shouldn't have said it. Really they had learned something by doing that activity.

Situations varied as to the degree to which the teen planned and set up the activity. One group of students in school B planned a foods day for the preschoolers on a day that they were in charge of planning.

> The other thing that some of the kids did was to try and use food as the theme for the day and to focus all the activities around foods and this was done basically by the students who had been in class in the fall and also now in the spring. What they did was to plan a snack where the children could participate and help make this snack and they chose to do pizzas on English muffins. It was a good activity and a fun activity and well planned. They tried to get a story based on foods (stone soup) and a song that they wanted to teach the children about peanut butter and jelly and the final activity was going to be balloons that had pictures of foods inside of them and the children popped the balloons and could take home the picture. It was an action filled day and the children enjoyed the day very much. It was almost too much to do in one class period (1½ hrs.).

The curriculum seemed to provide some motivation and resources for integrating foods and nutrition activities into the playschool. Although the number of activities seen during the field test period was atypically high, it is expected that use of the curriculum would encourage increased nutrition education into the preschool programs.

QUESTION #3 - INCREASED DECISIONMAKING BETWEEN STUDENTS AND CHILDREN REGARDING FOOD AND NUTRITION

Question #3 was taken from the original project proposal and was interpreted to mean that teens would involve children in food decisions and communication would take place. The instrument that was designed to examine this question elicited a diversity of responses from which emerging patterns were

noted, but there was little evidence of joint decisionmaking and communication. This may be attributed to the lack of clarity of the evaluation instrument or to the lack of student exposure to the process of joint decisionmaking or a combination of both. For use in the future as a teaching or evaluation tool, the instrument needs to be revised further.

The Test and Its Analysis

Four written vignettes were taken from the curriculum to examine the teens' approach to solving problems concerning children and foods. The instruments were administered by the classroom teachers in a testing situation.

The student responses were analyzed by grouping similar responses together and forming categories. The frequency of response within each category was calculated and compared among groups of SPEAC students and comparison classes. Appendix E contains a copy of the instrument, the raw and categorized data.

Results and Interpretations

The student responses revealed that the questions asked about the vignettes were not clear enough and were often multiple in number. Consequently, it was not possible to know exactly which question the response was answering within each vignette response. This may have also caused confusion for the students as they answered the questions and thus, affected their answers. Therefore, the data is limited by this measurement problem, but the data were analyzed taking this into account as much as possible. Students' responses were varied, but some emerging patterns were noted. Although the comprehensive results from the test are found in the Appendix E, only a summary will be discussed here. Those findings relating specifically to the evaluation question will discussed first.

Question #3 concerning a three year old boy who won't eat at dinnertime elicited some responses that could be construed as involving the child in a decisionmaking process. However, almost the same percent of non-SPEAC as SPEAC students indicated that they would either ask the child to help plan and prepare the meal or work out a different dinner time with the family. However, story #2 which presented the problem of wasted milk disclosed that more SPEAC students would ask the children why they didn't drink the milk than would non-

SPEAC students. Typical responses of this type were:

> Ask the kids why they are not drinking the milk. Try something else for lunch to drink.
>
> I would ask them if they like it; then if they said no I would find a way to fix it.

If the evaluation question is interpreted to include communication with the child to explain actions, then further comparisons may be made. Question #1 deals with a girl who can't eat the custard served at her center because she is allergic to eggs. A far greater percentage of the SPEAC students chose to explain eith to Tammy or to the whole group about the problem. Likewise, a much larger percent of the non-SPEAC students said they definitely would not explain. In story #4, a situation involving a Mexican-American girl who did not appear to like American food, the majority of one of the comparison groups indicated that Maria should eat American food that is served or go hungry.

> She should learn to eat other things. If she doesn't eat her lunch, she will just be hungry until dinner time.
>
> Her parents are probably having too much Mexican food and her mom or dad should make some American food.

On the other hand, a high percentage of students from all groups responded that the boy who would not eat at dinner time in story #3 should be made to eat at mealtime. Thus, although there are trends in some of the data, factors within the problems, the evaluation questions, and perhaps the curriculum or its implementation make the findings inconclusive.

Summary and Recommendations

This aspect of the study revealed some problems with an evaluation instrument, but some interesting information as well. The evaluation question was difficult to study and may be just as difficult to implement. However, if involvement in decisionmaking is determined to be an important goal for the curriculum, perhaps this needs to be imphasized more in the curriculum and in the in-servicing. As an illustration, a high percentage of SPEAC students chose to make the unwanted milk in Question #2 more appealing through adding

ingredients like chocolate. Although this practice by itself definitely does not involve the child in decisionmaking, the students could be helped to see that changing the form of the milk might well result from a problem solving session with the child. Sections of the curriculum such as Unit 4 "A Child's Eye View of Food" may become very manipulative if the students do not see the child as a person with a legitimate point of view (rather than someone to be tricked into eating through fancy food forms).

Although the four problem situations used in this part of the study need to be revised somewhat to eliminate multiple questions and unnecessary information, they may have potential for student self-evaluation. It seems possible that, after completing the instrument, the students could categorize their own responses. Based on the results of this evaluation study's use of the instrument, some of the common categories that are likely to emerge are:

1. Make the child conform to the desired behavior
2. Change the food or situation to make more appealing to the child
3. Try to work out a solution with the child
4. Use the problem situation as a learning experience for the whole group
5. Use rewards to get the child to eat

After identifying the categories, students could examine the way the child is viewed, what the child would learn, whether the problem would be solved, etc. by using each perspective. By seeing the values and assumption inherent in the approach they have chosen to follow, students are apt to become more reflective about their role with young children.

QUESTION #4 - PLANNING FOOD TO MEET CHILD CARE FOOD PROGRAM GUIDELINES

Since the SPEAC for Nutrition project aims to increase understanding of the role of the CHild Care Food Program, one of the evaluation questions asked if the students were better able to plan food intake to meet the needs of preschool children incorporating the Child Care Food Program guidelines. The Child Care Food Program has guidelines for minimal requirements of snacks served in children's programs. When snacks planned by SPEAC students and non-SPEAC students were compared, it was found that there were no real differences between the snacks planned by the two groups with respect to the Child Care Food Program guidelines. This result was attributed to the finding that the teachers had been unable to teach the material relating to the Child Care Food Program guidelines since they did not have the resource material needed to do so.

The Test and The Analysis

A form for testing student's ability to plan foods to meet the needs of preschool children was developed. On this form, students were asked to list five snacks for young children that could be served at a nursery school or day care center. This was also an activity for students to do that was included in the SPEAC curriculum guide. The analysis of the snack plans that students listed was based on the Child Care Food Program guidelines which require the following: 1) milk or juice or fruit or vegetable 2) whole grain or enriched bread or an equivalent serving. Each snack was evaluated to determine if it met the guidelines. The number of snacks (out of 5) meeting the guidelines was given to each student as a score.

Results and Implications

A comparison of the mean scores for the SPEAC group (2.7) and the non-SPEAC (2.4) shows that there is not much difference between the two. An analysis of the content of the planned snacks revealed that no matter what group the student was in, most failed to meet the guidelines in one or more of their snacks

because they did not include a bread or an equivalent. See Appendix F for the data and more detailed analysis. As measured by the snack planning test, it seems clear that there is not a significant difference between those involved with the curriculum and those not. Is this result valid? It was this question that led to the examination of other data. One of the items on the multiple choice achievement test (#26) asked students to identify the snack which did not meet the Child Care Food Program Guidelines. There was no difference between the groups in the percentage that got the item correct which provides further validation for the lack of difference.

The observation and interview data give us insight into why there seems to be no difference between groups. Both teachers involved in field testing mentioned that they did not have the reading materials which dealt with snack planning according to the guidelines. Instead, students were instructed to plan "nutritious snacks" for the playschool. This meant that none of the students taking the snack planning test had studied the Child Care Food Program guidelines.

Conclusions and Recommendations Concerning Snack Planning

Two forms of testing and interviews of the teachers revealed that students had not learned about the Child Care Food Program Guidelines during the field testing of the curriculum. This leads to the recommendation that if planning snacks according to the Child Care Food Program guidelines is considered to be important, then teachers need to become familiar with them (possibly through in-service) and the resources need to be readily available.

The Child Care Food Program guidelines themselves are an issue here also, because during the field testing of the curriculum we learned that the guidelines changed. For purposes of the evaluation, we used the guidelines in effect when the curriculum was written and the teacher in-service conducted. But, it is possible that the results of the snack planning testing would be different using the new guidelines. Due to this changing nature of the guidelines, it would seem important for students to not only learn what the guidelines are, but to examine their history and purpose, and how they might be used in helping to meet the nutritional needs of children.

PART IV - CONCLUSIONS AND RECOMMENDATIONS

> I guess I thought it was pretty well organized. I thought it was pretty well put together. Everybody has got to do it their own way. If I were to do it again, I don't know if I would alter anything; I might. I guess I didn't think it was very complicated for the kids, except for the specials but everything is complicated for them. (Teacher A)

> I liked the lessons. They were well organized, easy to do and had a variety of things to do to keep kids interested. Kids'evaluation of the unit said they enjoyed it alot and those activities were the highlight of the trimester. (Teacher B)

These were comments made by the two teachers upon completion of field testing the student unit of SPEAC for Nutrition. It seemed that, in general, the teachers liked the curriculum for the organization of it and for ideas. When asked, a teacher also indicated that she thought the concepts were important and there were no others that needed to be added. Actually, there were already more than they may have had time for.

A large proportion of the students reached by the curriculum was special education students. Since there was reason to expect that this would be a normal situation, certain adaptations of the curriculum and its implementation were suggested.

The curriculum was generally found to be flexible enough to adapt to the demands made by varying program structures. Units could be structured and sequenced from the materials that would provide students with the experiences needed to perform diverse tasks. The activities contained in the curriculum were accepted as workable and of interest to students. Specific concerns and suggestions were made regarding particular activities and the availability of teaching resources was regarded as an essential requirement.

Regarding the results of the effects of the curriculum on students, substantial differences were found between SPEAC and non-SPEAC students on a multiple choice achievement test on nutrition principles and on issues related to children and foods. There were some qualitative differences between the way

the two groups of students responded to four open-ended problem vignettes, but generally there was little evidence of involving children in decision-making by either groups of students. No differences were apparent between the two groups on an assignment asking them to plan five snacks which met the Child Care Food Program guidelines. These results were consistent with what would be expected from accounts and observations of the curriculum and its implementation.

For what programs would this curriculum work? As the teachers mentioned, each setting has unique needs but how the curriculum guide was used in the field testing gave some insight into who might use it. Child Care occupation programs at the secondary (or, possibly post secondary) could use the whole curriculum, but would probably need to emphasize the snack planning and food activities. The guide could also be used in child development classes with the emphasis on developing understanding of children and food, then using snack and food activities if children were part of the program.

In addition to the more general reactions which gave some support for use of the curriculum, there were some specific concerns related to improving it. Based on the analysis of the data, several recommendations are presented under three categories: 1) Immediate Additions to the Curriculum Guide, 2) Inservice Suggestions, and 3) Further Development Needs.

1. Immediate Additions to the Curriculum Guide

   Due to expressed frustration over too much curriculum for the time they chose to do nutrition education . . .

   a. Add an anotated table of contents to aid teachers in the selection process.

   b. Add a paragraph giving examples of how the curriculum might be used if it can't all be used.

   c. Make the identification of supplemental activities more clear.

   A variety of students tend to take courses in which this curriculum might be used. A large proportion of these students may have special needs. Therefore:

   a. Add a page to the curriculum guide explaining how it might be adapted for special needs.

   b. Revise some of the directions so they are more concise and clear.

   c. Add more space and lines for writing on the worksheets.

2. Inservice Suggestions

Due to some of the concerns expressed and observed:

a. Help the teachers become familiar with some of the teaching processes and materials that seem to be more difficult to implement for many teachers, expecially the interviews, debates, computer program, and guidelines for snacks.

b. Help the teachers with the process of deciding how to use this curriculum guide in the available time and structure - a consider what they would have to omit to do it.

c. Provide a listing of resources (films, filmstrips, books) available in that specific area and how to access them. When possible, have A-V materials there for review.

d. Suggest ways to adapt for special needs students.

3. Further Development

Due to the large percentage of special needs students who tend to take classes in which this curriculum might be taught, the whole curriculum guide could be adapted for special needs students.

Given the time constraints expressed by the teachers concerning the amount of time and structure of the course in which they can deal with nutrition, a curriculum guide could be written selecting the concepts identified as most important to snacks for children.

APPENDIX A

BRIEF GUIDE FOR DOING INTERVIEWS AND OBSERVATIONS

The interviews and observations were designed to help determine how and to what extent the curriculum was being implemented. This included pursuing how adaptable and usable the curriculum was in different settings and finding out what changes need to be made.

Semi-structured interview questions were designed for the field worker to use in collecting data from the field testing sites. The interview questions on the following pages were given to the field worker to use as a guide for the interviews with the key informants who were the teachers. The field worker was instructed to use these questions as appropriate and to probe when necessary.

Observations were to be done in the field testing sites as scheduling permitted. The purpose was to get a running account of activities in the classroom and the participants reactions when the curriculum was being implemented.

As observation and interview data were collected, some analysis was done to determine emerging issues. These issues were then pursued as further data were collected.

SPEAC TEACHER

First Interview

Could you describe the course I will be observing?

How would you describe this course to the students on the first day?

What kinds of students are in this class?

What do you think is important for students to learn in this course?

How long have you been involved in teaching this course?

How has it changed during this time?

Could you show me around the room?

I realize that you have many things you would like to cover in this course, but your're limited by time. How did you go about deciding what topics you would cover?

How did you go about deciding the organization of the course?

How did you decide which topics from the SPEAC curriculum you would use?

How did you decide which activities from the SPEAC curriculum you would use?

Focus Interview

In this part of the lesson, the students used _____. What did you do in order that the students could work in the ways they did?

How much time would you estimate it took to get ready for that experience?

How familiar were you with that teaching approach?

How do you feel about this experience?

Did you consider other ways of working with the students before selecting this? What were they? What influenced you to select what you did rather than the other things that were considered?

(In order to make some judgement on how this curriculum might be used it would be helpful to know how teachers go about choosing from it.)

Final Interview

Now that you have used these SPEAC materials, I'd like to get your thoughts on them. This will help us know how to describe them to others who are considering using them.

If you were to tell another teacher what he or she might expect to find in the curriculum, what would you say?

Sometimes teachers find curriculum materials easier or more difficult to use because of the directions. What kind of comments would you make with regard to the directions for use of this curriculum?

If you were to describe the way in which the SPEAC materials were organized to another teacher what might you say?

Often teachers are interested in the outside or additional resources (books, films, hand-outs) which they need to prepare in order to implement the curriculum. What would tell a teacher who was interested in this aspect of the SPEAC curriculum?

Of the materials which you selected to use from the curriculum what did you find most useful? What were the features of these materials that you found most useful?

How much time do you think might realistically be spent on food and nutrition for children in a course such as yours?

Does the SPEAC curriculum focus on the most important concepts that teens should know about children and food? What are those concepts?

Some have told us that there are more materials in the curriculum than could be used in the time you have available. How did you go about deciding what not to use?

(use self-report filled out by teacher to discuss what they did) Curriculum materials often include new concepts and teachin approaches together with some which one is familiar. Which of these are new ideas? Which were familiar?

What other comments could you make that might help another teacher understand what this curriculum is like?

APPENDIX B

Suggested Adaptation of Curriculum for Special Needs Students

It is expected that there will be several Special Education students using the SPEAC For Nutrition curriculum as these students are often encouraged to take vocational home economics classes. For instance, approximately 38% of the students at the field test sites were identified as having special needs. Although the curriculum was not written specifically with Special Needs students in mind, it is thought that these students could use it more successfully if the following precautions and measures were taken:

1. The support system (stories, examples, worksheets, etc.) and students instructions should be carefully examined for:

   a. Appropriate sentence length and complexity
   b. Sentence clarity and use of necessary words only
   c. Typing and grammatical correctness
   d. Unecessarily abstract and unfamiliar words (perhaps a key to new terms could be included)
   e. Separation of ideas and questions into distinct, readily-identifiable units

2. The "Cool Cake" story may contain too many ideas for a Special Needs student to deal with at one time. It might be better to construct several short vignettes, each dealing with one or two distinct learnings that a child may get from a food experience. However, it is thought that the main objective for the story could be lost in this manner (a child learning many different things from a single food experience).

   The story might also be made more meaningful to Special Needs students if the teacher and/or resource person working with students 1) thoroughly understands the intent of the lesson, 2) assists the students in examining small pieces of the story, and 3) helps the students translate particular episodes from the story into general statements about children's learning. It seems necessary for all people working with the curriculum, including Special Education aides, to receive in-service training to familiarize them with the curriculum goals and methodology. Suggestions for adaption to Special Needs students could be made and developed at the training session.

Special Needs Adaptation Cont.

3. Where the students are asked to provide a written response, adequate space needs to be allowed for writing. Spacing should also be used to make the pages look more attractive and less overwhelming to the Special Needs student.

4. The way in which the curriculum is used will determine the extent to which it will need to be adapted. The writers intended that the curriculum be used with teacher direction and often with classroom discussion. The Special Needs student is expected to learn the major concepts quite adequately through these means. However, if the material is used as independent study, adaptaions will probably have to be made for all students but particularly for Special Needs students. The amount of reading and writing necessitated by an independent study approach may distract a Special Needs student unnecessarily and handicap him or her unfairly.

Conclusion:

It seems wise to solicite the professional judgment of a Special Education consultant regarding the above issues. The person should be given the opportunity to carefully examine the curriculum and respond to questions regarding overall suitability for Special Needs students as well as to deal with the more precise factors of language and layout.

APPENDIX C

NOTES ON ACTIVITIES FIELD TESTED *

Activity	School A	School B
Section 1 Food Isn't Just Something to Eat		
"Cool Cake"	"There was so much learning but students weren't very observing."	We used in the fall
Film: "Jenny Is A Good Thing"	"Good film. I've used before."	Unable to get to use.
Food Stations		Didn't do because hard to set up in field sites
Food Activity	Students were assigned to come up with 4 activities with foods to do with the children. Students made picture recipes. Some food activities that were mentioned: vegetable printing, restaurant made jello and ice cream, orange/milk drink, open-faced sandwiches, fresh fruit cup, mini-pizza, cookies, story about food, sorting pictures of foods into groups.	Didn't do at beginning but did later. Examples of activities that were mentioned: mini-pizza, balloons with food pictures, story about food, flash cards.
Section 2 Why Do Children Eat What They Do?		
Early Food Experiences	Students wrote out own answers and they discussed as a group	Students did drawing or paragraph--"went over very well"
Family Observation Form	Students were assigned to observe at home. Couldn't get "At Home" films	We did form on one film "Rachel At Home"--only film available at the time. "Students were able to answer questions and got a lot out of it; interested." Problem: Students did not have access to families & children to observe a real family eating situation.

*Excerpts from field notes of observations and interviews

Activity	School A	School B
Interview with a Preschooler "Why Do Children Eat What They Do?"	1 student interviewed a pre-schooler and then shared it with the class. She seemed to have enjoyed it but she had trouble understanding what "to summarize" meant. The teacher encouraged them to interview 3 year olds which would be better to interview than 2 1/2 year olds.	It was interesting to students but the preschoolers did not understand the questions--almost too difficult.
Filmstrip: Nutrition: Food, Facts, Frauds, Parts I and II	Were shown and discussed	Went over well. Questions were very good, easy to use, students could answer, did them orally.
Worksheet "Why Do I Eat What I Do?"		After mentioning this activity, the teacher comments: "I liked the lesson, it was well organized, easy to do and had a variety of things to keep kids interested. The kids evaluation of unit said they enjoyed it a lot and those activities were the highlight of the trimester."
Section 3 Food for All Seasons of Life		
Filmstrip on Physical Development and Needs	Unable to get in time	Substituted with another-- "Food as Children See It"
Computer--Analyzing Your Own Diet	Most did their own diet. It was useful, but how much it will affect them is another thing. No problems. Not all Special Ed. students did it.	It takes too much time to do, especially with a large class. Teacher used with another class and found it very interesting and kids enjoyed it. Direction were hard to understand, so the directions should be changed to "contact math or business dept. for correct user number."
Worksheet: Nutrition Through the Life Cycle		
Food Diary	Seemed to be confusing for teacher and students--they weren't sure what to do	Forms were used somewhat but they got a little involved.

Activity	School A	School B
Food Groups, Where Do They Come From?	Students worked on own or with one other to see what nutrients are similar	
Analyzing Pre-school Child Diet	Parents provided a record of what a child had eaten. It was analyzed without the computer.	Problem with availability of child and parent for student to interview. Particularly difficult with the whole class. It would work better with a few students.
Computer Analysis Sheets	Sheets were used to analyze even if hadn't done computer analysis.	The sheets were used as suggested to decipher the computer print-out. "I like these because it's easier for students to use computer print-out and know what to focus on."
Crossword Puzzle	If student did, it was done independently.	Used as review in Spring (lack of time in fall) Good review when getting ready to do food activity with children.
Unit 4 Child's Eye View of Food		
Interview with Family Day Care Parent or Parent	1 student interviewed and then shared with the class	The form was good, easy to use but students are apprehensive about going up to somebody and interviewing.
Filmstrip: "Food As Children See It"	Used earlier	Very good. STudents were planning snacks and it helped with ideas to dress up snacks.
Debate Duel: Food Issues and Kids	Students wrote out own opinions. With a good group they could debate but would not be very good with these students. They discussed learning to eat foods from one's own culture and foods from other cultures.	It takes too much time to research. Students wrote out arguments. Students found interesting yet didn't know how to debate. They needed a demonstration on debate.
Problem Vignettes- Children and Food	Students did on own.	"worked out pretty good."

Activity	School A	School B
Measuring--serving sizes	Teacher tells serving sizes to the students and they write down	It's too much for the amount of time it would take so didn't do; too much money for food and not adequate room.
Unit 5 Putting Puzzle Together		
Cardboard Snacks		They planned snacks using the food cards.
Snack Checklist You Be the Judge-- An Evaluation Form for Judging Snacks for Children		They read chapter 19. Did not devise evaluation form but used one from Unit 1. They took best snacks and used in play school. "now after each time we can evaluate whether it was a good snack for the kids, if they liked it, if they got filled up on it, if it was real nutritious or perhaps they could do something differently, how could they get kids more involved in the foods. That worked out pretty good."
Planning Snacks (reading)	Students did not have the Child CAre Food Program Guidelines	"We didn't have chapter 12, so we planned without reading."
Snack Planning Form -"Putting It All Together"	STudents planned snacks--they used the list of 25 snacks as a guide. They must by "nutritious". (It's not clear if they used the form.)	We didn't use the form. Students told the teacher what they wanted to plan and she made out the order. "Checklist is pretty involved and I guess it is making more work than what is actually done. There's not enough time. Students were getting tired of forms."

APPENDIX D

Name _____

FOOD AND CHILDREN

Directions:

Circle the letter before the answer that best completes each statement or answers each question.

EXAMPLE:

A good source of protein is

a. Green beans
(b) Chicken
c. Oranges
d. Apple juice

% CORRECT SPEAC N=24	N-S N=37	DIFF		
			1.	Which of the following types of food would be most likely to appeal to children?
0	11	-11		a. Lumpy
8	19	-11		b. Sticky
88	70	18		*c. Crunchy
4	0	4		d. Stringy
			2.	Which of the following should NOT be used to encourage a child who picks at his/her food?
75	38	37		*a. Sweets
8.3	43	-34.7		b. Finger foods
8.3	8	.3		c. Surprises
8.3	11	- 2.7		d. Decorations
			3.	What is an example of a "full-strength fruit or vegetable juice?"
12	22	-10		a. Hi-C orange drink
4	8	- 4		b. Gator-ade
67	46	21		*c. Welch's grape juice
17	24	- 7		d. Tang
			4.	Babies often smear food on their trays. When they do this, we could say that they are using food mainly as a _____ experience.
8	13.5	- 5.5		a. Social
4	13.5	-9.5		b. Nutritional
63	49	14		*c. Sensory
21	24	- 3		d. Language
4	0	4		No response
			5.	We learn to like some foods
17	24	- 7		a. Through happy experiences with those foods
8	3	5		b. By watching other family members
4	16	-12		c. Because they are served to us
71	57	14		*d. All of the above

PEAC	N-S	DIFF	
			6. The best way to help young children develop better eating habits is to
4	11	- 7	a. Tell them the right foods to eat
0	0	0	b. Let them eat junk foods until they get tired of them
0	16	-16	c. Let them have dessert only if they eat their vegetables
96	73	23	* d. Give them many experiences with a variety of good foods
			7. What is often lacking in American diets?
67	57	10	* a. Iron
29	24	5	b. Protein
0	16	-16	c. Fat
0	0	0	d. Carbohydrates
4	3	1	No response
			8. In one day, a preschooler had one serving each of orange juice, peas, and applesauce. How does this compare with the recommended number of servings for the fruit and vegetable group?
42	51	- 9	* a. Not enough servings
42	30	12	b. Just the right number of servings
8	5.5	2.5	c. Too many servings
8	8	0	d. There are no recommendations for a preschooler
	5.5	- 5.5	No response
			9. Jennifer, a 4 year old, isn't getting enough Vitamin C. What could be added to her diet to help this problem?
8.5	22	-13.5	a. Whole wheat bread
0	0	0	b. Cocoa
8.5	13	- 4.5	c. Eggs
79	65	14	*d. Tomatoes
4	0	4	No response
			10. Oranges, broccoli, and strawberries are all foods included in the fruit and vegetable group. This group is a good source of
4	11	- 7	a. Protein and iron
0	8	- 8	b. Calcium and iron
0	5	- 5	c. Thiamin and riboflavin
96	73	23	* d. Vitamins A and C
	3	- 3	
			11. If your diet is low in iron, which food could help you get more iron?
8	22	-14	a. Milk
13	0	13	b. Oranges
4	16	-12	c. Cheese
75	57	18	d. Greens
	5	- 5	No response
			12. Why is it a good idea to encourage children to cook?
17	16	1	a. They will usually eat what they've helped make.
4	11	- 7	b. It makes them feel smart and capable.
4	5	- 1	c. It encourages thinking and problem solving.
75	68	7	* d. All of the above

13. The following lunch menu was planned for a child care center:

Hamburger in enriched bun
Coleslaw
Pears

EAC	N-S	DIFF	
			What needs to be added so that the menu has foods from all four food groups?
4	8	- 4	a. Green beans
0	0	0	b. Crackers
2	87	5	*c. MIlk
4	5	- 1	d. Apple
		14.	Comparing a teen to a preschooler
9	62	17	*a. Both need the same nutrients but in different amounts
0	5	- 5	b. Teens do not need Vitamin C
4	22	-18	c. Both need the same nutrients and amounts
3	11	2	d. Preschoolers need more calories
4	0	4	No response
		15.	Two year olds may suddenly eat verylittle. Not eating is probably connected with
4	8	- 4	a. Being part of a certain cultural group
7	46	-29	b. Not liking very many foods
1	41	30	*c. A slowing down of body growth
8	5	3	d. Wanting to please the adults around them
		16.	Look at this menu:

Meatball
Mashed potatoes Applesauce
Bread and Butter
Milk

What should be added to make it more interesting to a young child?

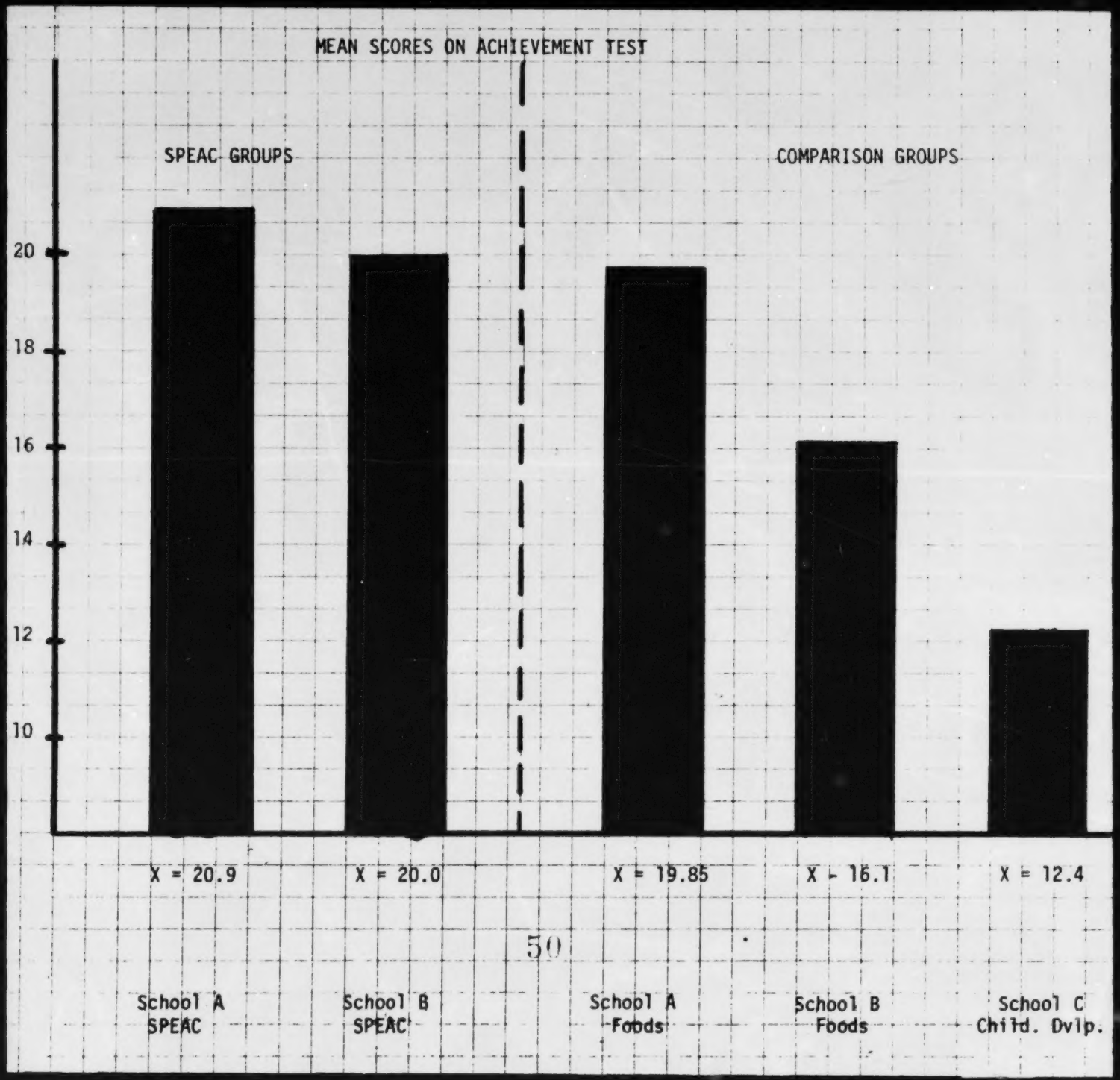
0	8	- 8	a. Rice
88	81	7	* b. Carrot sticks
4	5.5	- 2.5	c. Squash
8	5.5	2.5	d. Cauliflower
		17.	Caregivers should usually use the children's lunchtime to
4	24	-20	a. Record which foods each child is eating
0	0	0	b. Clean up the room
0	14	-14	c. Plan menus with other staff members
96	59	37	* d. Eat with the children
	3	- 3	No response

SPEAC	N-S	DIFF		
			18.	What is the MOST important reason for planning a certain snack for young children? The food are
79	57	22	*	a. Nutritious
8.5	11	- 2.5		b. Colorful
4	3	1		c. Low cost and easy to find
8.5	16	- 7.5		d. Familiar to the children
	13	-13		
			19.	It might seem strange for someone to eat pizza for breakfast because we take for granted that pizza is not a _____ food.
0	5	- 5		a. low-calorie
62.5	27	35.5		b. healthy
21	65	-44	*	c. breakfast
12.5	0	12.5		d. convenience
4	3	1		
			20.	How much can a child care worker do to help young children eat more nutritious foods?
0	3	- 3		a. Nothing. Children are born with food likes and dislikes.
8	19	-11		b. Very little. Children only eat what they feel like eating.
75	62	13	*	c. Much. Children learn food likes and dislikes.
17	16	1		d. Very much. Children eat what adults tell them to eat.
			21.	The following breakfast menu was planned for a preschooler:
				Peanut Butter Whole Wheat Toast Milk
				What needs to be added so that the menu has foods from all four good groups?
75	51	24	*	a. Orange juice
12.5	19	- 6.5		b. Scrambled eggs
12.5	27	-14.5		c. Cereal
0	0	0		d. Cocoa
	3	3		
			22.	What is the FIRST thing you should do to try to get vending machines that carry nutritious foods?
29	19	-10		a. Write to your Congressman and ask for laws to stop junk food machines.
71	68	- 3	*	b. Talk to the owners of the buildings where the vending machines are located.
0	0	0		c. Put slugs in machines that don't carry nutritious foods in order to make them "out of order."
0	0	0		d. Make picket signs and walk back and forth in front of the machines with junk food.
	13	-13		

SPEAC	N-S	DIFF		
		23.	What is the reason for having snacks in a day care center?	
0	0	0	a.	Some snacks contribute to tooth decay.
83	70	13	* b.	Snacks can help meet health needs.
4	6	- 2	c.	Snacks may spoil appetites for meals.
13	24	-11	d.	Some snacks can add many calories and few nutrients.
		24.	A day care teacher gives candy to the children when they obey her directions. What are the children learning?	
88	86	2	* a.	Food can be used as a reward.
4	5.5	- 1.5	b.	Candy is a "junk" food.
0	5.5	- 5.5	c.	Food tastes better when they are hungry.
4	0	4	d.	Candy is bad for their teeth.
		25.	Nuts, popcorn and raisins are discouraged for preschool children because	
75	51	24	* a.	They may cause choking
4	11	- 7	b.	They are not nutritious
8	35	-27	c.	They encourage eating with the hands
13	0	13	d.	They may cause a mess
	3	- 3		
		26.	What snack does NOT meet the Child Care Food Program Guidelines?	
17	11	6	a.	Apple slices and bran muffins
21	22	- 1	b.	Milk and enriched cereal
54	54	0	* c.	Hard-cooked eggs and corn bread
4	8	- 4	d.	Carrot sticks and whole wheat crackers
4	5	- 1		
		27.	If a child does not drink milk, which nutrient may be lacking in his diet?	
13	16	- 3	a.	Vitamin C
4	8	- 4	b.	Iron
4	11	- 7	c.	Carbohydrate
79	65	14	* d.	Calcium

Grade: 9 10 11 12 (circle one)

Sex: M F (circle one)


MEAN SCORES ON ACHIEVEMENT TEST
SPEAC GROUPS
COMPARISON GROUPS
20
18
16
14
12
10
X = 20.9
X = 20.0
X = 19.85
X = 16.1
X = 12.4
School A SPEAC
School B SPEAC
School A Foods
School B Foods
School C Child. Dvlp.

APPENDIX E

E-1 "Problems to Ponder" Instrument

E-2 Summary of Student Responses

E-3 Student Responses to "Problems to Ponder"

Name _____

PROBLEMS TO PONDER
Children and Foods

Explain in a few words how you would handle the following situations:

1. Tammy is allergic to eggs. Vanilla custard, which contains a lot of eggs, is served for lunch at the day care center where you work. How would you help make this situation easier for Tammy? Would you say anything to the other children about the problem?

2. The children in a family day care home where you assist are given ½ cup of milk for lunch each day. You notice that many of the glasses of milk are barely touched. What are some ways that you might handle the situation? Which do you think is the best solution and why?

3. Dear Abby,

My three year old son is a very picky eater. He won't eat at mealtime and he's asking for food an hour later. I'm afraid that he's not getting enought o eat so I let him eat when he is hungry. My husband thinks he should finish what's on his plate at dinner. Our meals always end in tears. What should I do?

Worried

4. Maria is the daughter of Spanish-speaking Mexican Americans. She usually picks at her lunch and does not eat most of it. She says that the food is not like that which she eats at home and she does not like it. In the afternoon, she often appears listless and complains that she is hungry.

SUMMARY OF STUDENT RESPONSES TO QUESTION #1

#1 Tammy is allergic to eggs. Vanilla custard, which contains a lot of eggs, is served for lunch at the day care center where you work. How would you help make this situation easier for Tammy? Would you say anything to the other children about the problem?

At school B, all responses involved changing the food (giving a different food or not giving custard) and then explaining to the children why. Some of those said they would only explain if asked. In the other group that had the curriculum, the majority of the students said they would explain to the children. Students in the comparison groups gave a variety of responses; most said they would not explain.

A summary of the categories that emerged through analysis and the frequency of response (%) by group is presented below.

	SPEAC CURRICULUM		COMPARISON GROUPS		
	School A	School B	School A Foods	Child Development	School B Foods
	N=8	N=13	N=15	N=8	N=12
GIVE DIFFERENT FOOD & EXPLAIN	37%	53%	27%	25%	33%
DON'T GIVE FOOD & EXPLAIN	25%	0	0	0	0
DON'T GIVE & EXPLAIN IF ASK	0	15%	0	0	0
GIVE DIFFERENT & EXPLAIN IF ASK	0	30%	0	0	0
GIVE DIFFERENT & DON'T EXPLAIN	25%	0	33%	12%	33%
DON'T GIVE & DON'T EXPLAIN	0	0	7%	25%	8%
GIVE EVERYONE DIFFERENT FOOD	0	0	7%	12%	0
GIVE CUSTARD TO TAMMY	12%	0	0	0	0
OTHER	0	0	27%	25%	25%

SUMMARY OF STUDENT RESPONSES TO QUESTION #2

#2 The children in a family day care home where you assist are given ½ cup of milk for lunch each day. You notice that many of the glasses of milk are barely touched. What are some ways that you might handle the situation? Which do you think is the best solution and why?

For all groups, the most popular response was to change the food in some way--add chocolate, give less, give milk substitute or give juice. More students who had the curriculum indicated they would ask the children why they didn't drink the milk, than the others. Students in the comparison groups more frequently said they would reward the children for drinking milk or do a variety of things like telling them to drink it.

	SPEAC CURRICULUM		COMPARISON GROUPS		
	School A N=8	School B N=13	School A Foods N=13	Child Development N=7	School B Foods N=13
CHANGE THE MILK TOTAL:	48%	76%	46%	29%	54%
Sub-totals: Add chocolate	24%	46%	38%	14%	38%
Give milk substitute	0	8%	0	0	0
Give less milk	24%	0	0	14%	8%
Variety-give less, juice or cocoa	0	15%	0	0	0
Give juice instead	0	8%	8%	0	0
Don't give milk	0	0	0	0	8%
ASK CHILDREN ABOUT THE MILK	38%	15%	0	14%	8%
HAVE KIDS WATCH YOU DRINK MILK TO ENCOURAGE THEM	13%	0	0	14%	8%
REWARD THEM FOR DRINKING ("IF YOU DRINK YOUR MILK YOU CAN PLAY.")	0	8%	15%	29%	8%
OTHER TELL TO DRINK, TELL NEED IT FOR THEIR BODIES, PLAY THEM HARD SO THEY'LL BE THIRSTY	0	0	38%	14%	23%

SUMMARY OF STUDENT RESPONSES TO QUESTION #3

#3 Dear Abby, My three year old son is a very picky eater. He won't eat at mealtime and he's asking for food an hour later. I'm afraid that he's not getting enough to eat so I let him eat when he is hungry. My husband thinks he should finish what's on his plate at dinner. Our meals always end in tears. What should I do? Worried

The most popular response for all students was for the son to eat at the meal.

	SPEAC CURRICULUM		COMPARISON GROUPS		
	School A N=8	School B N=13	School A Foods N=13	Child Development N=7	School B Foods N=12
EAT AT THE MEAL	63%	46%	31%	57%	67%
ASK CHILD TO HELP PLAN AND PREPARE	13%	0	0	14%	0
SERVE FOODS SON LIKES	13%	8%	8%	14%	16%
LET EAT WHEN WANT	0	15%	14%	23%	0
WORK OUR DIFFERENT DINNER TIME WITH FAMILY	0	15%	15%	0	8%
TAKE TO DOCTOR	0	15%	0	0	8%
GIVE DESSERT IF EAT GOOD	13%	0	0	0	0
TELL EAT OR GET SICK, EAT OR THE BOODIE MAN WILL GET HIM, TELL MAKE "MUSSELLS" BIG- TRICK HIM	0	0	23%	0	0

SUMMARY OF STUDENT RESPONSES TO QUESTION #4

#4 Maria is the daughter of Spanish-speaking Mexican Americans. She usually picks at her lunch and does not eat most of it. She says that the food is not like that which she eats at home and she does not like it. In the afternoon, she often appears listless and complains that she is hungry.

Most students who had been involved with the curriculum thought both American and Mexican food should be served at the center to all children. Also, only students involved in the curriculum thought that Maria should be served both American and Mexican foods. The most popular response for those in comparison groups was to have Maria bring her lunch from home. Other popular responses were to give Maria Mexican food or to give Maria American food only.

	SPEAC CURRICULUM		COMPARISON GROUPS		
	School A N=8	School B N=13	School A Foods N=5	Child Development N=13	School B Foods N=11
SERVE AMERICAN AND MEXICAN FOOD IN THE CENTER TO ALL	50%	15%	0	0	9%
SERVE BOTH AMERICAN & MEXICAN FOOD TO MARIA	38%	15%	0	0	0
HAVE MARIA BRING FROM HOME	12%	8%	69%	60%	18%
GIVE MARIA MEXICAN FOOD	0	23%	8%	40%	9%
GIVE MARIA AMERICAN FOOD (EAT OR BE HUNGRY, EAT OR GO BACK TO MEXICO)	0	15%	16%	0	55%
BRING LUNCH, TALK WITH PARENTS INCLUDE MEXICAN FOOD AT CENTER	0	15%	0	0	0
PARENTS MAKE AMERICAN FOOD AT HOME	0	0	8%	0	9%

STUDENT RESPONSES TO

"PROBLEMS TO PONDER --- CHILDREN AND FOOD"

The following four situations were given to students and they were asked to explain in a few words how they would handle the following situations. Students individually wrote their responses on the form provided. These responses are compiled below.

1. Tammy is allergic to eggs. Vanilla custard, which contains a lot of eggs, is served for lunch at the day care center where you work. How would you help make this situation easier for Tammy? Would you say anything to the other children about the problem?

School A

S 1 I would give Tammy something different for lunch, and explain to the other children that Tammy can't have anything with eggs in it, because she will get sick, if she eats anything with eggs in it.

S 2 make her a special custard without eggs. NO

S 3 give her something else to eat. and explain to the other children.

S 4 We shouldn't serve it to her. Yes we should tell them why she isn't eating this vanilla custard.

S 5 tell the truth and explain why. children will understand the reason why she excused.

S 6 I would ask tammy to try the custard' but don't give her as much as the other kids

S 7 I'd try to find another way to prepare without eggs or something similar that she could eat -- I wouldn't tell the others.

S 8 I would tell the children that Tammy couldn't eat this because it has eggs in it and she cannot eat eggs. But there are things each of us maybe cannot eat and we shouldn't feel bad when everyone else has it. We should eat more if still hungry.

School B

S 31

S 32

S 33 Yes I would. give somethings else for tammy lunch

School B continued

S 34

S 35 Do not force her to eat custard. If children ask why she doesn't -- tell them the reason.

S 36 1. Egg substitute 2. yes

S 37 To make the situation easier for Tammy, I would serve her something else. I don't think there would be a need to say anything to the other children about the problem unless they ask.

S 38 I wouldn't say anything to the other children unless they asked.

S 39 Get something else for her to eat or have her not eat. Yes I'd say something.

S 40 I would explain to the kids about her problem. Then get her something good that she isn't alergic to.

S 41 1. Egg substitute (if it will work). 2. Yes. Explain why she may get something different from the rest.

S 42 I would give her something that she is not allergic to and then I would explain to the other kids why she has to have something else.

S 43 Give her something else to eat, and tell the children about the problem so that they're not jealous.

S 44 Serve her something else and don't mention anything unless someone asks.

S 45 I would use a substitute that looks similar to the custard for Tammy. I wouldn't tell the other children anything unless they asked.

S 46 Give Tammy something else if possible. The kids don't need to know unless they ask.

Comparison Groups

S 10 No, just don't give her the custard, or find something else for her.

S 11 Only if they other children were not eating their custard, (first part of question) Give her something else.

S 12 if I know that Tammy was allergic to eggs and I was going to have vanilla custard I think I might get something different for her and tell the other kids because they might think that she is getting special treats and get mad at her.

S 13 I would make something that don't have any eggs in it. And make something that is similar to vanilla custard. Then I would tell the other children the problem and still let them eat the vanilla custard.

Comparison Groups continued

S 14 Serve Tammy something else explaining to the children why she is getting something else.

S 15 I don't think I would say anything to the other children because they probably woundn't understand the situation. I think I would try to find another recipe for custard (a special recipe) then go by that.

S 16 I don't think the children would care unless they have to eat the food containing the eggs and she doesn't. They would probably ask, then they should know.

S 17 I'd give Tammy some other kind of desert and explain to her that the custard had eggs in it. I wouldn't say anything to the other children unless they asked. If they asked, I'd explain it to them, I don't see any reason it would bother Tammy if they knew -- also it would be a learning experience for the other children.

S 18 I would tell the person in charge of the day care center so they wouldn't serve it to here. They should serve here something else so she won't be tempted to eat it. I wouldn't say anything to the other children.

S 19 I would give her something in place of it.

S 20 Try to find something else for Tammy to eat. And say to the other children that Tammy is allergic to eggs. Something happens to her body, she needs a different kind of food.

S 21 I would tell Tammy not to eat the vanilla custard. I don't think it would be necessary to tell the other children.

S 22

S 23 You could plan something else that all the children would like.

S 24 No. I would give her something else.

S 25 Yes, and then give Tammy a peanut butter sandwicht.

S 26 Yes. My say that tammy can not eat eggs because: she's allergic to them and it's not good for her. Give her something else.

S 27 No

S 28 I'd tell the other children why Tammy can't eat eggs and I wouldn't serve vanilla custard.

S 29 No

S 30 I would give her encouragement to eat the vanilla custard. No.

S 31

Comparison Group continued

S 47 I would make her eat them because it aint the right way to make child eat.

S 48 No, I wouldn't say anything to the other children. I would try and get some kinds of food she would like.

S 49 (no response)

S 50 I wouldn't tell any of the other children. But I would tell her she should not eat the vanilla custard.

S 51 I would say anything to the children,but I would talk to the person who serves the lunches about subing something for the custard.

S 52 I would help Tammy by telling her to bring her own bag lunch. I would tell other kids so she wouldn't get teased!

S 53 No, I would not say anything to the children and I would try to substitute the vanilla custard with some other type of thing.

S 54 Yes I would tell the children what Tammy's problem is and probly go get something else for her that is nutritious.

S 55 No I would just serve something else because if you let one kid eat something else and the others the same thing the kids eating the same thing will wonder why 1 kid is eating something different.

S 56 Don't have vanilla custard for lunch anymore!

S 57 Give the children a choice for vanilla custard and something else, then they won't think anything if Tammy gets something different.

S 58 No you could get her some thing else to eat.

S 59 It depends on if Tammy wouldn't settle for anything else. If she wouln't then I probably say something to the other kids.

S 60 See if there is anything else for her to have for lunch. I would explain to the children that is Tammy eats this she can and will get very sick. So that is why she is getting something else.

S 61 I wouldn't say anything to the other children cause they would think eggs were bad for them also. and Iwould serve Tammy another snack.

S 62 Give Tammy somthing else to eat, tell the other children what is happended/

2. The children in a family day care home where you assist are given 1/2 cup of milk for lunch each day. You notice that many of the glasses of milk are barely touched. What are some ways that you might handle the situation? Which do you think is the best solution and why?

School A

S 1 I would only give the children 1/4 cup of milk, and if they wanted more they could have more, and I would tell them that milk is good for their growing bodies.

S 2 Give the ones milk who want it, 'cause then if they want it they'll drink it!

S 3 Tell them that they won't grow big and strong. Then I would drink some and set a good example.

S 4 We could give them less, and incourage them to drink it, and tell them its a little bit, just a couple swallows.

S 5 And Chococate or strawberry some children don't like the taste of milk.

S 6 I would ask them if they like it; then if they said no I would find a way to fix it so they would.

S 7 Find recipes that would include the equivalent of 1/2 cup mild that would be attractive to them like orange milk shake.

S 8 I think that in a daycare they should find out which children like mild and which doesn't and have containers of milk and water available to them. The ones that don't like milk should get just a little if he/she wants some.

School B

S 31

S 32

S 33 Ask the kids why they are not drinking the milk. Try somethings else's for lunch to drink.

S 34

S 35 They need milk. Stir in some chocolate or flavoring and they might try it.

S 36 1. Ice cream (malt), cheese.
2. Change it to substance with milk in it.

School B continued

S 37 Cut the serving to 1/4 of a cup of milk. Serve juice instead of milk some days. Maybe put a little cocoa in the milk to give it a different taste. I think they're all fair answers because I think variety is essential.

S 38 I would ask them to finish their mild. If they did maybe you could reward them.

S 39 Make sure that all the glasses are filled 1/2 way.

S 40 1. Switch to choc. milk. 2. give them water 3. give them nothing to drink. I think 1 is best!

S 41 1. milk substitute -- cheese, ice cream. Make chocolate milk or shakes (malts) 2. Chocolate mail because it's easiest and kids love chocolate

S 42 Some of them might not like it. I think I would give them orange juice or some grape juice.

S 43 Give them chocolate milk sometimes (or strawberry milk) encourage drinking it, but make sure their is other items from the dairy group. Serve a dry lunch so they are thirsty. Giving chocolate or a variety of different kinds of milk, so they get used to drinking milk.

S 44 Substitute something like cheese to make up for the lost vitamins. Or you could add chocolate to the milk.

S 45 I would either make snacks made from milk products or use cholate milk.

S 46 Ask the kids what else they prefer, and arrange whatever is possible.

Comparison Groups

S 10 Cut down on the amount and if they ask for more give them the rest to make it 1/2 cup.

S 11 Give them chocolate milk or orange juice. Orange juice because it gives the vitamins.

S 12 I would have the kids that drank their milk go to a different room and play and the ones that did not stay ther and drink it. or give the kids that will not drink this much milk a smaller amount of it.

S 13 If they didn't like milk I would give them orange juice or something that contains vitamin C or something.

S 14 I would put chocolate mix in it. They would then be drinking chocolate milk and not milk. Kids tend to like chocolate milk much better.

S 15 I would put something in the milk like cocoa or and milk like cookies or crackers, etc.

Comparison Groups continued

S 16 I would make the milk more exciting by put a small amount of chocolate in the milk. I think this would be best because it would be something different. Most kids like chocolate.

S 17 I might handle the situation by telling them that their bodies need milk to make them grow up and be big and strong. by telling them about the important vitamins and minerals milk contains and how important the are to keep us healthy. By telling them that if they don't drink their milk, that they won't get any cookies (desert etc.) The best solution is #1 because they can learn about the things their bodies need. I don't like #2 it's bribery used in desperation.

S 18 You could tell them how milk builds strong bodies and how good it is. If you tell them what it will do for them they probably will drink it.

S 19 I would quit giving out milk if they aren't going to drink it. Or give them cookies or something that makes you thirsty.

S 20 Ask the children if they want milk and how much before you give it to them. If they want it only give them 1/4 of a cup. then give more if they want more.

S 21 Confront the children and tell them that they must drink their milk and see that they do. If they don't drink it, put it in the refrigerator and save it for them.

S 22 Show them that the milk is good, by having the kids watch you drink the milk, and by encouraging them.

S 23 Put cocoa in their milk, because children usually like chocolate milk.

S 24 First I ask them why they dont want to finsh there milk. then I would talk to them.

S 25 Say "if you don't drink your milk we can't go outside" etc.

S 26 Say if you all drink your milk you can go and play now?

S 27 I will go and tell the disk washer to do a better job.

S 28 Give the children less milk to drink, because the don't want to drink that much milk.

S 29 no answer

S 30 I would tell them that it's good for them then I'd drink some. My way because if you drink they'll want to copy in some cases.

S 47 Milk is good for you. It will make you grow tall, it taste really good.

Comparison Groups continued

S 48 Tell the childrens if they drink all of there milk they would grow big and strong like there father, tell the girls they would be very pretty like ther mother!

S 49

S 50

S 51

S 52 Children should drink more milk or just give them chocolate milk then they will drink it.

S 53 Put Nestles Quick in their milk!

S 54 Give nestle quick to the children. Or no snack if they don't drink their milk and no play time. Can't leave table until they drink their milk. The best one I think is the one that the chilren can't leave the table til their drink it because then they'll drink if fast so they can go play or whatever they are going to do.

S 55 I'd tell then that they need vitamins for their body to make them grow.

S 56 Tell the children they must drink the milk or don't give them any at all.

S 57 Give them chocolate milk, it's just as nutritious only they'll like it better.

S 58 Either add something to the milk like chocolate, or but the children something different.

S 59 Let them play hard and cause then they'll get thirsty and most likely they'll drink it.

S 60 Tell the chilren they need to finish all there milk before they leave the table because if they don't how and the going to grow up big and strong.

S 61 I would add something to it, like coco so they start dinking it and it would encourage them to drink more milk.

S 62 To give them orange juice, it has a little more flavor and color, and vit. c.

3. Dear Abby:
My three year old son is a very picky eater. He won't eat at mealtime and he's asking for food an hour later. I'm afraid that he's not getting enough to eat so I let him eat when he is hungry. My husband thinks he should finish what's on his plate at dinner. Our meals always end in tears. What should I do?
Worried

School A

S 1 Train him how to eat foods at the right time. No eating between meals.

S 2 Dear Worried; Try and get him to do what your husband suggested and maybe then you will get him to eat at mealtime and not 2 or 3 hours later! Sign; Abby

S 3 I think you should go along with your husband for awhile. Or just give him food little by little on his plate as he eats it. Then offer him dessert, if he eats good.

S 4 I think you should tell your son, if he wont it dinner then he wont get anything else, the rest of the night. But dont give him any snacks after meals then he might be hungry at meal time.

S 5 be firm do not allow the child to eat between meals. You and your husband must pull together.

S 6 Dear Worried, Why don't you try and find different food for him to try maybe he will eat better. Abby

S 7 If he knew that he had to eat at mealtime and he got nothing between he should be hungry at meals -- the only food between meals he could have is fruit and raw veg.

S 8 I think the child should be asked to plan and help prepare the meal. He will probably be more energetic at eating it. Also make the meals look good to eat.

School B

S 31

S 32

S 33 Set up a dinner time that ok with the family. And maybe he should finish what is on his plate. And that he is getting enough to eat.

S 34

S 35 No eating between meals. Parents must agree.

S 36 1. No inbetween eating.

School B continued

S 37 Try to make your son understand that meal times are made for eating and that if he's going to eat, he has to eat at mealtime. Since he's hungry about an hour after dinner, maybe a compromise could be made -- move dinner to about 1/2 hour later too.

S 38 Maybe you could serve his meals when he's hungry or have him eat at least half.

S 39 Ask him what he would like for supper have him try different foods.

S 40 Take your child to a doctor and make sure nothings wrong. Then plan more appealing meals. Tell him if he won't eat a supper that he won't eat at all. By giving him extra food you may contribute to his becoming over weight.

S 41 As him why and take him to a doctor. He may not be hungry because of a problem in his chemistry. Try to get him to eat.

S 42 Wait and ask him; if he wants something differnt if it is nutritious enough and then I would give it to him later.

S 43 Dear Worried, I suggest that you don't give him any in between snacks It won't hurt him to starve for a few days until he learns to eat at dinner. If that doesn't work maybe you could try moving your dinner time to 1/2 hour or 1 hour later.

S 44 Have him eat with you at dinner and don't feed him later on he will soon realize he's too hungry to pass up dinner.

S 45 I wouldn't get upset if he didn't eat at mealtime but I wouldn't let him have food between meals. He would work himself into a schedule this way.

S 46 The child should be allowed to eat what he takes.

Comparison Groups

S 10 He should eat what's on his plate because what he might recieve an hour later may not have the nut. that he needs.

S 11 No answer

S 12 one day won't hurt him to go hungry so if he hese not eat what is on his plate. Let him go and when he sayes thet hes hunry say you had dinner just a hour (or what ever it was) he probly will eat after this most of the time

S 13 Dear Worried: I think you should fix what he wants to eat or tell him He does have to eat what you fix. Tell him you can't have anything to eat later than if you let him eat later he might eat junk food.

Comparison Group continued

S 14 Fist of all ask him for suggestions as to what he would like to eat for supper. Then if he don't eat tell him he wont eat nothing for the rest of the day unless he eats what is on his plate. Bribe him with good nutritional desserts if he clears his plate.

S 15 Dear Worried, you could make your meals look fun and interesting to your son so that he'll eat knowing that it's not just another meal he has to go through more like an adventure.

S 16 I would tell my husband to cool down and handle eat more sensibly. As for the three year old son I would refuse to let him eat a lot in between meals and nothing just before diner. As for diner he'd have to eal all the food before leaving the table.

S 17 Dear Worried, Try extednding your dinner time an hour later or have his lunch earlier. If this doesn't work, then go back to Tears -- if he is forced too eat like this all the time -- he will learn to do it without tears -- and don't let him eat later -- he'll get hungary at dinner time.

S 18 I would make him eat some of everything on his plate, but if he don't want to finish it I wouldn't make him. If he won't eat at mealtime I wouldn't give him food an hour later.

S 19 Let him eats when he wants or see a doctor.

S 20 Tell him to wait until supper if not give him a carrot or something to hold him until supper. But not too much.

S 21 A three year old should have no choice to when and what he will eat. I agree with the father.

S 22 If the boy don't eat at supper time, then he should't eat at all until he learns to at mealtime.

S 23 Dear Worried, serve what he likes or make him stay in the chair until he eats everything on his plate.

S 24 Dear Worried: Maybe your son just growing up. Better yet talk to him, and find out why he's not eating so much. Aby

S 25 make him eat with you!!

S 26 Give it to him at mealtime not a hour later, if he wants it an hour later tell him no that he had to eat it a mealtime.

S 27 Give him food on mealtime and if he doesn't eat it do not give him tell the nix mealtime.

S 28 Make and teach your son when its the right time to eat and to eat with the family.

S 29 no answer

Comparison Groups continued

S 30 wait and eat dinner when he's hungry. Abby

S 47 Ask him if he getting enough to eat give him a extra snack make him fill good.

S 48 The father is right you should tell your son to eat whats on his plate or else the boogie man will get him tonight.

S 49

S 50

S 51

S 52 Dear Worried, you should let your son eat at his will. He will soon be back to normal all kids do this. So don't let your son cry at the table just take it easy with him.

S 53 Your husband should be more understanding. Discuss it with your husband and Feed Your Kid!

S 54 Dear Worried. If he don't want to at meal don't feed him at all, or don't feed him before supper or any other meal let him get hungry before the meal.

S 55 Well if he eats a hour later serve the food at the time he usually wants to eat. and tell him that if he don't eat till the food he cant getting enough bitamins.

S 56 Make him eat and say if he don't he won't get nothing later.

S 57 Fix nutritious foods that he likes.

S 58 Explain to your son what he is eating, telling him how it will make your mussells bigger. more like trick him into eating.

S 59 Do things to help make him hungry. Cook stuff that smells good and have the family members talk about how hungry they are and how good it smells. Your husband is wrong to make a kid finish everything. You can lead a kid to food but you can't make him eat it.

S 60 Dear Worried, When your son is hungry make sure he gets all the nutrients and vitamins he needs tell him he has to eat other wise he will get sick.

S 61 Serve him food only at mealtime not when he's hungry.

S 62 Don't serve as much for dinner and then after a while when he eats all his meal, then put a little more eat time.

4. Maria is the daughter of Spanish-speaking Mexican Americans. She usually picks at her lunch and does not eat most of it. She says that the food is not like that which she eats at home and she does not like it. In the afternoon she often appears listless and complains that she is hungry.

School A

S 1 Serve small portions of american food, and some Mexican food until she grows to like it.

S 2 We would serve familiar foods to her and our foods other times, so others could try it.

S 3 Have her bring food from home until she gets used to the food.

S 4 We should tell maria that sometime we'll fix and have what you want, but sometime we have to have other food that the other kids like. But, what the other kids like is good for you.

S 5 Tell her to try American food a little bit at a time have some Mexican food there for her also.

S 6 I think they should try to encourage her to try someof the food or find some other foods that look more appealling.

S 7 Serve familiar Mexican American foods to all children so they would be aware of foods Maria likes - (do this occasionally) and then encourage Maria to try the other foods that the other children like.

S 8 Tell Maria that she should taste the foods she does not know about. These foods are good for her too. Also explain that foods she eats will be served and the other children will have to eat it, or at least taste it.

School B

S 31

S 32

S 33 for lunch take her to a Mexicans resuas for lunch try to see what types of Americans food she like maybe you can make a lunch scldule.

S 34

S 35 Have her try a little American food each day. Serve some Spanish food to every one sometime so they know what Maria is used to.

S 36 1. Add chilli powder and decrease amount at each meal.

S 37 Make her feel more at home by serving Mexican foods some days. Maybe if she sees that American kids are willing to eat her favorite foods, Maria will try their favorite food.

School B continued

S 38 Try to give her some Mexican style food and some American food and eventually she'd get used to the different food.

S 39 Get some foods that she likes in the menu and what the other kids like to.

S 40 She should bring food from home. Especially that which is high in protein and iron.

S 41 She is used to one kind of food spicy. Get her to try some foods. She may see that they really good.

S 42 Maybe she's afraid to try English food.

S 43 Have her bring a lunch -- and talk to her parents, seeing if they can maybe include a little American food at home. And maybe the school could have a day for Mexican food.

S 44 Try and give her foods that are Mexican or have her mother provide a snack for her.

S 45 I would either ask her to bring her lunch or prepare Mexican food for her. It is hard to get used to other countries foods. Sometime you would rather not eat than eat food that seems strange to you.

S 46 Encourage her to try some of our foods, otherwise have her bring some food from home.

Comparison Groups

S 10 no answer

S 11 no answer

S 12 her parents are probaly having to much Mexican food and her mom or dad should make some American food.

S 13 She is probably use to the food that she use to eat. And when you change eating habits your not going to like other foods so she don't eat much and later on she get hungry for some food.

S 14 Tell her to try the food Give her some reward for cleaning it off her plate. Make it clear to her that she wont be allowed to eat anything in the afternoon. Make a game out of it.

S 15 Ask her parents to send a lunch with Maria so she can eat what she likes or ask her parents for recipes that Maria like, but in doing this you will probably run into the problem of the other children; not like Maria's food.

S 16 I think that if her family wants to live in America and go to American schools she should try to learn to like American food. If she absolutly can't she should bring her own lunches from home.

Comparison Groups continued

S 17 Try fixing some of the things she eats at home for variety. Like have Tacos one day for everyone. Talk to her parents to see what she eats at home and what she likes. Try introducing her to new foods. Make her eat her lunch.

S 18 She should learn to eat other things. If she doesn't eat her lunch, she will just be hungry until dinner time.

S 19 Have her bring a bag lunch.

S 20 Make spanish food and have her help so she knows everything is right.

S 21 When someone is really hungry, they'll eat things that they're not likely to eat otherwise. Tell her to eat her lunch and she won't be hungry in the afternoon.

S 22 They should try to encourage her to eat or try different foods, just like when you go to a forign resturant.

S 23 What should I do? (she had written Dear Abby and crossed it out)

S 24 She should bring her own lunch.

S 25 Maybe cook her mexican meals for dinner so she has something to look forward tot.

S 26 Give her Spanish food if she likes it she will be eating.

S 27 (a scribble)

S 28 Have her parents pack some foods from home for her to eat, during lunch.

S 29

S 30 Pack a lunch thats her kind of food then see what happens.

S 47 Bring her own food to school to eat every day. I don't like there's

S 48 Well Maria should bring her own lunch to school if she doesn't like the school food which I don't blame her my self for not likeing the school food.

S 49

S 50 Don't eat the hot lunch. Bring your own lunch.

S 51 Let her bring her own lunch.

S 52 Tell her to eat our food or go back to Mexico!

S 53

Comparison Groups continued

S 54 Have her bring a bag lunch to school that she likes and nutritious.

S 55 Maria Mom should fix her a lunch that she likes to bring to school. But make sure its good food that will keep her healthy.

S 56

S 57 Send her home to eat or have her bring a lunch on days when she doesn't like whats on the menu.

S 58 All food isn't going to taste like back home so it best she begins liking the food. Or her mom should start cooking some more American dishes.

S 59 For lunch you should give her food like before only make it Mexican. Add things so she'll think it has some stuff like in her home. Tell the parents to give her American foods now and then to get her used to them.

S 60 Have her bring lunch from home so she eats.

S 61 Serve Maria something she likes and start her with this food slowly. so she gets used to eating it and learns to like it.

S 62 Have her (Maria) bring a bag lunch to school with her.

F - 1 Summary of Student Responses

F - 2 "Plan 5 Snacks for Children"

SUMMARY OF STUDENT RESPONSES TO "PLAN 5 SNACKS FOR CHILDREN"

Students were asked to write down 5 snacks that they would serve in a nursery school or day care center. These were evaluated to determine if the snacks met the Child Care Food Program Guidelines (1. milk or juice or fruit or vegetable, 2. whole grain or enriched bread or equivalent serving). The responses were analyzed for each student and then compiled by groups. Listed below is a summary of the results.

* * * *

There is <u>not</u> much difference between those that had the curriculum and those that did not in their ability to plan snacks that meet the Child Care Food Program Guidelines

	SPEAC CURRICULUM		COMPARISON GROUPS*		
	A	B	1	2	3
Average Number of Student Planned Snacks Meeting the Guidelines (Mean Score for the group)	3.1	2.3	.85	3.8	2.4

No matter what group the student is in, most failed to meet the guidelines in 1 or more of their snacks because they did not include a bread or equivalent. The listing of cookies was the next most common reason why snacks did not meet the guidelines. Cookies were listed by more students who were <u>not</u> in the SPEAC group, although it was listed by students in both.

REASONS WHY STUDENTS' SNACKS DID NOT MEET THE CHILD CARE FOOD PROGRAM GUIDELINES
(There can be more than one reason)

	SPEAC CURRICULUM		COMPARISON GROUPS		
	A	B	1	2	3
Did not list a bread	63%	93%	75%	71%	100%
Listed Cookies	38%	27%	69%	0	69%
Did not list fruit or milk	13%	0	6%	14%	7%
Other	0	13%	0	0	23%
	N=8	N=15	N=16	N=7	N=13

* Group 1 is a Foods class at school A, Group 2 is a child development class, Group 3 is a Foods class at school B

SNACK PLANNING

Below is listed the number of snacks that each student planned according to the Child Care Food Progam guidelines, when asked to plan 5 snacks. Notes have been made on the content of those not meeting the guidelines. Students are listed by school and notations have been made as to whether they are in the school groups having the SPEAC curriculum or not.

STUDENT I.D.	NO. OF SNACKS MEETING GUIDELINES	REASONS WHY THOSE WRONG DID NOT MEET THE GUIDELINES
School A (SPEAC Curriculum)		
S 1	3	1 had no bread, 1 had oatmeal cookies
S 2	5	(she answered correctly on test, but her worksheet plans were wrong)
S 3	2	
S 4	3	(she planned whole meals) 2 had no bread
S 5	3	1 oatmeal cookie, 1 no bread (bumps on log)
S 6	2	2 with ginger snaps
S 7	(didn't do)	
S 8	4	1 no bread
S 9	3	1 no bread, 1 water to drink with pizza
	$\bar{X}$ = 3.1	
School B (Used SPEAC curriculum)		
S 31		
S 32	3	1 no bread (bumps on log) , 1 didn't do
S 33	0	1 all different foods, 4--only 1 food listed
S 34	2	2 no bread, 1 Tang
S 35	3	2 no bread (bumps on log),
S 36	2	3 no bread (bumps on log)
S 37	2	3 no bread
S 38	1	2 no bread, 1 rice Krispy bars, 1 popcorn
S 39	2	3 no bread
S 40	1	4 no bread (1 rice Krispy bars, 1 cookie-p.b., 1 bumps on log)
S 41	2	1 no bread, 1 rice Krispy bars, 1 punch
S 42	3	1 cookies, 1 rice Krispy bars
S 43	2	2 no bread, 1 popcorn
S 44	3	2 no bread (1 p.b. on celery)
S 45	4	1 no bread
S 46	4	1 no bread (1 p.b. on celery)
	$\bar{X}$ = 2.3	
Comparison Groups # 3 (Foods Class in School B)		
S 10	2	3 no bread
S 11	3	1 no bread (p.b. & celery), 1 cookies
S 12	1	3 no bread, 1 cookies
S 13	1	3 no bread, 1 didn't do
S 14	0	3 no bread(1 p.b. & celery),1 cookies, 1 ice cream
S 15	1	2 no bread, 1 jello, 1 cookies
S 16	2	2 no bread, 1 cookies
S 17	0	3 no bread (p.b. & celery) 2 cookies
S 18	1	4 no bread(1 p.b. & celery)
S 19	0	3 no bread, 1 popsicles, 1 cookie
S 20	0	listed only 1 food

STUDENT I.D.	NO. OF SNACKS MEETING GUIDELINES	REASONS WHY THOSE WRONG DID NOT MEET THE GUIDELINES
(Group #3)		
S 21	0	3 no bread, 1 cookie, 1 animal cracker
S 22	0	1 cookies, 1 cupcakes, 1 popcorn, 1 no bread, 1 no milk/juice
	$\bar{X}$ = .85	
Comparison Group # 2 (Child Development class)		
S 23	0	listed only 1 food
S 24	3	1 no bread, 1 no fruit/milk
S 25	4	1 no bread
S 26	5	
S 27	(didn't do)	
S 28	4	1 no bread
S 29	3	2 no bread (1 pegs on log)
S 30	4	(1 made no sense to me)
	$\bar{X}$ = 3.8	
Comparison Group # 1 (Foods class from School A)		
S 47	3	1 no fruit/milk, 1 cookie
S 48	2	2 no bread, 1 cookies
S 49	2	3 no bread
S 50	2	2 didn't do, 1 had Hi C
S 51	4	1 no bread
S 52	2	3 cake or cookies
S 53	2	2 cookies or cake, 1 no bread
S 54	3	1 no bread, 1 cookies
S 55	3	1 no bread, 1 cookies
S 56	1	2 cookies or cake, 2 no bread
S 57	2	2 no bread, 1 animal crackers
S 58	4	1 popcorn
S 59	3	(2 listed a hodgepodge of foods)
S 60	2	1 no bread, 2 cookies
S 61	1	2 no bread, 1 p.b. cookies
S 62	3	2 cookies or cake & milk
	$\bar{X}$ = 2.4	

Name _____

Date _____

Plan 5 snacks for young children that could be served at a nursery school or day care center:

Snack # 1

Snack #2

Snack #3

Snack #4

Snack #5